
GIS Mapping Process for Critical Urban Freight Corridors (CUFC) and Critical Rural Freight Corridors (CRFC) in California

Overview

Caltrans recommends the regional agencies follow this methodology for accurately identifying the CUFC/CRFC miles. This will help Caltrans map and maintain the mileage tracking system statewide. In order for Caltrans to do this efficiently, it is critical that each segment/corridor location is clearly identified and accurate. Caltrans is strongly recommending that each region submit an Excel spreadsheet with the following fields: State, County, Route or Street Name, Start Point Description, End Point Description, Start Latitude/Longitude or Start Postmile, End Latitude/Longitude or End Postmile, Approximate Length (miles), and CRFC_ID or CRFC_ID. The following table shows four examples of what Caltrans needs to process your data.

Example Table:

Project ID	State	County	Route or Street Name	Start Point Description	End Point Description	Start Latitude/ Longitude or Start Postmile	End Latitude/ Longitude or End Postmile	Approximate Length (miles)	Caltrans Verified Actual Length (miles)	CRFC_ID (A-G) CUFC_ID (H-K)
1	CA	Los Angeles	Pier 8 Street	.018 miles east of Anaheim Way	W 9th Street	33.781471, -118.222665	33.776888, -118.208295		0.901	J
2	CA	Los Angeles	71	I-10	SR-60	R0.616	R4.311		4.282	H
3	CA	Riverside	60	Theodore Ave	Jack Rabbit Trl	21.371	27.976		6.595	C
3	CA	Riverside	60	Jack Rabbit Trl	I-10	27.976	30.495		2.547	H

Providing your information in this format will allow Caltrans to process your data in GIS and to verify your CRFC/CUFC miles. This format will also be used when submitting your file to FHWA for certification and will help support the ongoing designation/de-designation process that will occur as we work to maximize the potential of the CUFC and CRFC miles.

Supporting Tools

Caltrans has published an ArcGIS Online Interactive Map Viewer that includes Urbanized Area boundaries, Caltrans Postmiles (at 1/10th mile intervals), a basic street basemap, and the shovel ready projects each region submitted to Caltrans in January 2017 to identify where they are considering designating a corridor. The Viewer also includes tools for locating roads by their name, determining CUFC/CRFC lengths, and the latitude/longitude of CUFC/CRFC end points.

If you prefer, you can use your own GIS to collect the necessary data; please refer to the guidelines further below if you choose to do this.

Urbanized Area Boundary

If your designated segment crosses an urbanized/rural area boundary, you must split the segment and report them separately as a CUFC and CRFC. Measure the begin/end points for both segments to be reported for certification. See the last two records in the Example table above where CRFC-ID “C” means rural and CUFC-ID “H” means urban.

ArcGIS Online Interactive Map Viewer


The interactive web viewer can be found at:

<http://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=f3458a90339b4becb471262eee8d8412>





You'll need to agree to the terms and conditions when application opens.

Zoom in to an area of interest;


Either zoom to your known area of interest, or type in the name of the street or highway route in the “Find address or place” box, then click on the magnifier.




To determine the Latitude and Longitude for your segment;

- Select the measure tool. 
- Select the location icon. 
- Select the “Degrees” unit from the pull-down menu to the right of the Location icon. 
- Zoom to the area of interest, click the start point on the road once (this symbol  will pop-up); the latitude and longitude will be displayed in the measurement window.
- Copy and paste the latitude and longitude into your Excel table and repeat the process for the end point.

To determine the Postmiles for your segments;

- Zoom to the area of interest or type in the name of the street or highway route in the “Find address or place” box, then click on the magnifier.
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- Click the State Highway Postmile (10th of Mile Interval) Layer box to make it visible.
 - If you wish to report higher precision postmiles, you'll need to interpolate between the 10th mile postmiles.

To measure your segment;

- Select the measure tool. 
- Select the ruler. 
- Click the start point on the road once (this symbol  will pop-up), continue clicking along the road to your end point and when done, double click at the final point to get your approximate total miles.

Using your own GIS

If you wish to use your own GIS and work outside of the ArcGIS Online Map Viewer, we require that you use the 2010 Caltrans Adjusted Urbanized Area Boundary shapefile to ensure consistency and accuracy throughout the state. We will also provide for download the All Roads (state and local roads) shapefile and the Shovel Ready Projects to help identify where you are considering designating your corridors.

You can download all three files by Region here:

<http://www.dot.ca.gov/hq/tpp/offices/ogm/gisdata.html>

The ArcGIS Online Map Viewer will be updated regularly as we go through the process of designating the CUFC/CRFC. Caltrans will keep a historical record of all designated and de-designated corridors and associated Urban and Rural centerline miles.